

Immanuel Wallerstein's World-System Theory and the Disaster Relief Action: A Mixed-Method Empirical Study of the 2015 Earthquake in Nepal

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Abstract

Disaster is an unexpected natural or human-generated catastrophe that ensues calamitous events and disrupts the functioning of the social spheres of individuals. It creates predicaments and vulnerability, damages lives and infrastructures, manifests the negative consequences as hazards and requires social resilience for recovery. Nepal is susceptible to natural disasters, and the genesis of emergencies in a specific time frame has transformed the social semblance in execrable circumstances. This article explores the disciplinary context of disaster studies. It examines whether Immanuel Wallerstein's World-System Theory fits into studying disaster relief action policy at the time of the massive earthquake in 2015 in Nepal, with empirical references. The research is conducted through mixed methods incorporating secondary data with a literature review. The significant findings present that earthquake management strategies and relief action policies are constructed in the aftermath of disasters, lacking preliminary preparedness—the dilemma and coordination between national agencies' dearth in great quantity during the post-disaster phase. As an underdeveloped country, the government of Nepal has sought international assistance due to the preliminary assessment that the Central Natural Disaster Relief Committee facilitated to manage the critical predicament fabricated by the devastating earthquake. After the seismic

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event, international support was immediately provided as humanitarian aid, but later, the pledge donation was delivered in the form of grants and loans from developed nations. Furthermore, the consequences conclude that an underdeveloped nation, Nepal, as a periphery country, depended upon other semi-developed and developed nations acknowledged as semi-periphery and core countries, respectively. Hence, Wallerstein's World-System Theory matches the disaster relief action policy in the 2015 earthquake in Nepal to prevent the problematic appearance of an earthquake-victimized population.

Keywords: Disaster Relief Action, Disaster Studies, Earthquake of 2015 in Nepal, Immanuel Wallerstein, World-System Theory

Introduction

The definition of disaster can be categorised into three types- classic, hazards/disasters, and socially focused (Perry, 2007). Disaster studies tackle the socio-behavioural aspects of unexpected and challenging circumstances, distinguished as public calamities or disasters, prioritising the confrontation on the impacts of that phenomenon, varying from individuals, social and worldwide (Lindell, 2013). Disasters can occur due to natural events, human activities, and technological hazards influenced by factors that affect a community's exposure and vulnerability (International Federation of Red Cross and Red Crescent Societies, 2023). Similarly, the earthquake remains a major natural disaster in Nepal preceding its history. It is scientifically known as a tectonic or volcanic phenomenon that represents the movement of rock and generates shaking or trembling of the Earth (Cassidy, 2016), affecting human life, damaging the infrastructure, increasing social vulnerability and needs social resilience, coping capacities, adaptive capacities and transformative capacities (Keck & Sakdapolrak, 2013) to recover from it.

Consequently, for disaster studies, this research paper explores the relationship between Immanuel Wallerstein's World-System Theory and the disaster relief action policy adopted by the Government of Nepal during the massive earthquake of 2015 with empirical references. Hence, the dynamics of World-System Theory constitute the capitalist world economy characterising a total social

system and signifies the macro-sociological perspective (Martínez-Vela, 2001). For instance, certain nations' economic and political dependence on more powerful and developed countries compels supplemental underdevelopment (Frank, 1967). Hence, a core, a semi-periphery, and a periphery are the three tiers of exploitation formed through a single market, resulting in the appropriation of surplus labour (Wallerstein, 1974).

Immanuel Wallerstein's (1974) Argument and its Integration on Disaster Relief Policy:

Immanuel Wallerstein's World-System Theory posits that global economic structures create a hierarchical system with three main components: (i) the core, (ii) the semi-periphery, and (iii) the periphery. This framework views these tiers as interdependent entities within a single market, where the core nations dominate economically, politically, and militarily. The semi-periphery acts as an intermediary betwixt the periphery and core, experiencing some economic development; however, it is still being exploited by core nations. The periphery comprises less developed countries that provide cheap labour and raw and primal materials directed toward the core, often facing exploitation and unequal power relations. In the context of disaster studies, this framework suggests that the core exploits both the semi-periphery and the periphery by appropriating surplus labour and resources. During disasters, this exploitation can become more pronounced as vulnerable regions in the semi-periphery and periphery suffer disproportionately due to limited resources, inadequate infrastructure, and lack of agency in decision-making processes. The core nations, with their economic and political power, often dictate the terms of aid and recovery efforts, further perpetuating the exploitation of these regions.

Analysing Wallerstein's argument reveals a systemic pattern of exploitation within the global economic landscape, where disasters exacerbate existing inequalities and power imbalances. This perspective emphasises the urgency for a more equitable distribution of resources and decision-making power in disaster response and recovery efforts to confront and tackle the underlying structural injustices perpetuated by the core-semi-periphery-periphery framework. Consequently, the argument mentioned

above also applies in the construction phase of policy and its implementation of related issues to mitigate disaster relief action in Nepal. Moreover, the disaster relief policy of the Government of Nepal (2019) is related to "substantially reduce the disaster risk and losses in lives, livelihoods and health as well as in the economic, social and physical infrastructure and cultural and environmental assets of persons, communities, and nation and to increase their resiliency by implementing disaster risk reduction and management activities in a balanced way". Consistently, the definition of disaster differs across borders, and the consequences of the same disaster in various regions also vary. Moreover, the analytical framework developed by multiple social researchers and experts helps mitigate earthquake management strategically.

Objectives of the Research

This research paper explores the disciplinary context of disaster studies. It examines whether Immanuel Wallerstein's World-System Theory fits into studying disaster relief action policy during the massive earthquake in 2015 in Nepal with empirical references.

Literature Review

Disaster interrupts the functioning of a society, regardless of its size, resulting from the interaction between hazardous events and conditions of exposure, vulnerability, and capacity, leading to losses and impacts on individuals, infrastructures, the economy, and the environment (United Nations Office for Disaster Risk Reduction, 2023). The disaster has become a buzzword in the vocabulary of the majority and a part of the daily occurrence of humankind in all regions of the globe (Siriwardena et al., 2007). It is widely recognised that disasters affect and disproportionately impact the poorest and low socioeconomic status individuals within a community, as they have a relatively higher sensitivity to the effects of such events compared to communities with higher levels of development. The recurrence of these events further expands the vulnerability of people experiencing poverty to disasters, increases poverty levels, and prevents many households from breaking the trapping cycle of persistent poverty (Lal et al., 2009). So, foreign aid, assistance and the development program of a country possess an unswerving

relationship, which also applies in the Nepalese context and is a matter of ongoing debate (Thapa I. , 2020).

Furthermore, foreign aid postulates the voluntary transfer of financial and economic resources, commodities, equipment, training and services through grants, scholarships, loans, projects, programs and technical assistance globally. This moment, foreign aid commenced in 1951 in Nepal, having an agreement with the United States of America. In sequence, non-governmental organisations (NGOs) rose worldwide before the 1970s, but in Nepal, NGOs have thrived significantly since the 1990s due to various factors (Karkee & Comfort, 2016). Correspondingly, aid is provided for short and long periods and comprises benefits and drawbacks. So, aid can be allocated through multiple types: Bilateral, Multilateral, Humanitarian, Military, Emergency, NGOs/ INGOs, Voluntary, Tied, Health, Fiscal, Infrastructure and Disaster relief aid.

The underdeveloped and developing countries possess weak governance, socio-political instability, indigence, limited infrastructure, dependency, limited access to healthcare and education, and the foreign aid obtained at the duration of normalcy in the juncture of natural disaster and the aid received in the disaster regime in a short period have the contrasting influence on the growth rate during the recovery phase (Manuelli & Vizcaino, 2017). Then, international aid primarily aims at fighting against natural disasters, fundamentally originates from humanitarian principles, occasionally intermingles with strategic interests debating on ensuring sustainability and allied to institutional conditions of the donor agencies and nations (Wu et al., 2019). So, foreign aid can be utilised by donors as a means to encourage trade with the recipient country. For the donor, it can be an export promotion strategy when a recipient nation uses aid to purchase exports from a developed nation. This approach potentially benefits the donor income source, including trade and export of goods (Bandyopadhyay & Vermann, 2013).

Younas (2008) confers that developed donor nations provide more aid to recipients who import capital goods, likely in part to promote their trade interests, while prioritising humanitarian concerns such as infant mortality and human rights, lessening emphasis on reducing economic hardships like poverty within

recipient countries. Uniformly, Immanuel Wallerstein's World-Systems Theory wields the political and economic basis to understand global inequality and has segregated the hierarchy-based world economic system into three zones: core, semi-periphery, and periphery. Little et al. (2013) proclaim that Wallerstein's World-Systems Theory argues that development and underdevelopment are not natural stages of modernisation. However, instead, the result of colonialism, core-periphery structure, capital accumulation, unequal exchange, worldwide division of labour, globalisation, competition and expansion of power relations and an economic hierarchy that settles some nations in positions of power and others in subordination subjugated states confront prominent impediment for mobilisation. Therefore, numerous World-System scholars contend that the onset of global capitalism emerged approximately 500 years ago as the contemporary World-System, and this system can be novel to research of disaster (Letukas & Barnshaw, 2008).

Correspondingly, urbanisation and dense population via migration might transform into both challenges and opportunities for earthquake risk mitigation. He et al. (2021) investigated the global examination of population instability and urban land area from 1990 to 2015 in earthquake-prone locations. They revealed that over 70% of the total population in 2015 and nearly three-quarters of earthquake-related deaths (307,918 deaths) transpired in developing nations, characterised by an urbanisation ratio between 20% and 60%. Hence, this scenario emphasises the need to prioritise enhanced social resilience, incorporating buildings and urban infrastructure to mitigate earthquake-induced fatalities. Thus, corroborating the statement, the World-System Theory in disaster studies is a sociological framework that explores the relationship between disasters and the world's economic system under a power-sharing between social, economic, political, and environmental factors contributing to disaster risk and vulnerability. World Systems Theory is also acknowledged as a World-Systems Perspective or World-System Approach (Wallerstein, 2004). Therefore, the World-System Theory draws the economic and political relations as a single dynamic of the global social system, and Immanuel Wallerstein presents the World-System as a World-Economic System in the contemporary world. Hence, Immanuel Wallerstein (1974) states, "The World-System consists of a single market within which the

appropriation of surplus labour results in the formation of three tiers of exploitation: a core, semi-periphery and periphery".

Methodology

The research is conducted through mixed methods. So, the essential data are derived from secondary studies and a blending of empirical observations with references to the massive earthquake in 2015 in Nepal. In the context of this research, the term "essential data" refers to crucial information that forms the foundation of the study. These data encompass primary and secondary sources, including scholarly articles, reports, and empirical observations relevant to the investigation. Using secondary studies ensures a comprehensive understanding of existing literature and has enabled the researcher to contextualise the research within the broader scholarly discourse. Additionally, the integration of empirical observations has allowed for a nuanced analysis of real-world experiences and phenomena, contributing to the richness and depth of the findings. Likewise, the choice to focus specifically on the earthquake of 2015 in Nepal is deliberate and based on several considerations. Firstly, the earthquake of 2015 was a seismic event of unprecedented magnitude and had an impact on Nepal's recent history, resulting in significant humanitarian, socio-economic, and political consequences. By centring the study on this particular event, the researcher aims to delve deeply into its multifaceted repercussions and examine how they intersect with Immanuel Wallerstein's World-System Theory.

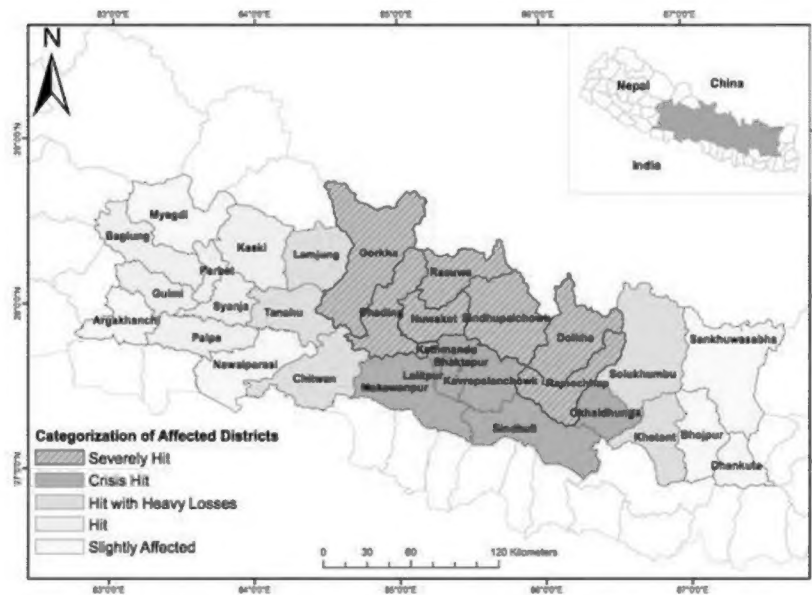
Furthermore, selecting the 2015 earthquake as the focal point of this research does not imply a disregard for other seismic activities in Nepal. Instead, it reflects a strategic decision to concentrate the efforts on a case study that offers ample empirical data and represents a critical juncture for exploring the dynamics of disaster relief within the framework of World-System Theory. Focusing on a singular event makes it easy to maintain methodological rigour and coherence in the analysis, ensuring that the findings are grounded in a specific context while drawing broader insights applicable to the intersection of disaster relief and global systems. Moreover, the inclusion of essential data derived from secondary studies and empirical observations, with a focus on the earthquake of 2015 in Nepal, is integral to the methodological framework of this research.

Hence, this approach enables the research to construct a robust analytical foundation, explores the nuances of disaster relief action through the lens of World-System Theory, and contributes valuable insights to the scholarly discourse on disaster management and global dynamics. To gain a comprehensive, rigour and depth of understanding of findings, the data from existing secondary sources, including literature review, published research articles and own empirical observations through field visits, are depleted. Consequently, the research describes the disciplinary context of disaster studies applying the World-System Theory of Immanuel Wallerstein and adjudicating integrates it in the context of the Nepalese earthquake in 2015. It attempts to fit into studying disaster relief action policy and empirical references. Hence, the research effectively elucidates the disciplinary context of disaster studies through Immanuel Wallerstein's World-System Theory. By employing a mixed-method empirical approach, the study critically examines the interplay between global socio-economic structures and disaster relief actions, particularly in the context of the 2015 earthquake in Nepal. It underscores the theoretical framework's relevance in understanding the unequal power dynamics inherent in the global system, shedding light on how Nepal's position as a peripheral nation influences its vulnerability and resilience to disasters. Through this analysis, the research contributes to a deeper understanding of the disciplinary context of disaster studies by integrating insights from World-System analysis, thereby enriching the discourse on disaster response mechanisms within a broader socio-economic framework. The entire research will be completed in 2023. Finally, the research explores the data in descriptive form analysing the disciplinary contest of the World-System.

Analysis and Findings

Bordering China and India, Nepal owns the high mountain range, hills and plain land. Natural hazards and tectonic processes, specifically landslides, floods, forest fires, extreme temperatures, thunderstorms, lightning, droughts, windstorms, earthquakes, glacial lake outbursts, and heavy monsoons remain the primary determinants triggering the physical environment more prone and vulnerable in Nepal. Regarding the vulnerability to earthquakes and climate change, Nepal ranks 11th and 4th worldwide, respectively,

and exceeds 80% of the total population at risk of natural hazards (Shrestha & Pathranarakul, 2018). The 7.6 earthquake struck the Barpak of Gorkha district on 25th April 2015 at 11:56 local time (Government of Nepal, National Planning Commission, 2015). Subsequently, more than 300 aftershocks ensued, with the second-largest being a magnitude 7.3 tremor on 12th May, and the official reports confirmed a total of 8,790 casualties and 22,300 injuries (Government of Nepal, Ministry of Home Affairs, 2015).



Source: Government of Nepal, National Planning Commission (2015).

The earthquake mentioned above impacted the lives of approximately eight million people, elucidating nearly one-third of the population. Among the 75 districts, 31 experienced varying degrees of impact, with 14 being officially designated as "severely hit" and "crisis-hit", according to the categorisation of the Government of Nepal (Central Department of Population Studies, Tribhuvan University, 2015). The evidence validates tremendous loss and damage, and the majority of the affected structures were stone/brick masonry buildings lacking seismic detailing, while most of the reinforced concrete buildings remained undamaged. So, the

appropriate engineering and structural design functions as the primary determinant to mitigating earthquake risks in Nepal (Goda et al., 2015).

After a devastating earthquake, numerous NGOs/INGOs, UN, EU, World Bank, Asian Development Bank, and Private, National, and International organisations have granted aid to Nepal. India, China, Japan, the UK, the USA, and several foreign countries expedited the response team and aid to subdue the impending complications. There arose[†] intense challenges in distributing the relief materials due to the remoteness, but the relief packages were distributed from the existing transportation network, including vehicles and helicopters in the earthquake-affected districts. Several individuals received medical and sustenance provisions in the aftermath[‡] of seismic events, with a considerable portion of them gaining access to these relief supplies after a significant period. Likewise, the location adjoining the earthquake's epicentre sustained severe damage, destroying infrastructure and a sharp increase in human fatalities and casualties. During the time span of the

[†] The word "arose" signifies the emergence or occurrence of significant challenges in the distribution of relief materials. Likewise, it denotes the development of formidable obstacles in the process of relief material distribution, attributed primarily to the geographical isolation of the affected regions.

[‡] The literal meaning of the term "aftermath" refers, the period which follows a significant event specifically in this case; the seismic event. It signifies the after-effects of the disaster, during which individuals received medical and sustenance provisions. Precisely, it denotes the post-phase of the seismic event (earthquake), indicating the time frame during which relief efforts were undertaken and supplies were distributed to those affected.

earthquake, people with power and accessibility received relief assistance rapidly, whereas inaccessible individuals were unable to meet their fundamental requirements, including food, clean water, medicine, treatment, and housing, for up to a lengthy timeframe.

The government's deficiency in preparedness regarding disasters, especially plans and policies implementing disaster risk management and prevention activities towards earthquakes, justifies the recovery and reformation of social and physical infrastructures that have not been adequately equipped to date. The sociological perspective affirms that such natural disasters significantly impact an individual's physical and psychological status, and social resilience is needed to recover from them. Similarly, this empirical study illustrates that minority groups, children, women, elderly and homeless individuals, low-income communities, rural communities, and persons with disabilities suffer from more significant adverse effects. On the other side, the empirical study and the methods of this study contain (i) empirical study location and (ii) data collection methods. The empirical study's location primarily focuses on the aftermath and impacts of the 2015 Nepal earthquake, which struck predominantly in the Gorkha district with its epicentre in Barpak. While the study became easy to conduct from Lamjung district due to the proximity of Lamjung to the affected district, Gorkha and its areas allowed for firsthand observation and involvement in post-earthquake activities, providing a unique perspective and access to local knowledge and experiences.

Similarly, the data collection methods for this empirical study were primarily gathered through observational methods and an extensive literature review from diverse secondary sources. These sources include, but are not also limited to, academic journals, government reports, NGO publications, and media coverage. The observational approach involves direct engagement with affected communities, interviews with survivors, field visits to impacted areas, and documentation of the earthquake's socio-economic and environmental consequences. Additionally, the literature review synthesises existing knowledge and analyses from reputable sources to complement and validate the empirical findings. By employing observational methods and a comprehensive literature review, the researcher ensures a robust and multifaceted understanding of the

2015 Nepal earthquake and its implications. According to this empirical study design, it was found that the paucity of integrated disaster action policy by the economic, geographic and political status was detected, which has raised the violence and discrimination in the form of class, gender and caste in the earthquake of 2015 in Nepal and many of the victims affected for multiple times (Adhikari et al., 2016). Therefore, World-System Theory, as the multidisciplinary approach, excessively emphasises the "World-Economic System" and "Capitalist-World Economy" as the present social system since history but not as nation-states, indicating the primary unit of social changes. Hence, Immanuel Wallerstein employs the term "World" to denote interconnected politico-economic entities rather than encompassing the entirety of the globe. This elucidates Wallerstein's insistence on hyphenating the term "World-System", a convention that social scientists adhere to. So, a World-System does not denote a system of planetary scale. Instead, it denotes a self-contained unit (Hall et al., 2011).

Genuine disaster risk management strategies are inadequately structured in underdeveloped countries, including Nepal. The Government of Nepal has formulated various strategic plans and policies in the aftermath of the earthquake but is befuddled in managing the appropriate situation in the seismic zone. The Ministry of Home Affairs remained the leading agency for emergency preparedness and response and is accountable for coordinating with different ministries, security forces, foreign countries, donor agencies, national and humanitarian partners, national, regional, and international organisations nationwide, along with global partners in many cases. Likewise, several humanitarian consequences manifested distrust in the citizens' mode of living and the Far, Mid-Western, and Central regions, including Kathmandu, Bhaktapur, and Lalitpur, were affected to a higher degree. Displacement and damage to the infrastructures of rural and urban areas, including houses, hospitals, educational buildings, roads, bridges, and other critical working structures, have collapsed (Humanitarian Country Team, 2016). Furthermore, the focal policy, the Natural Calamity Relief Act of 1982, guides the mitigation of disaster-related activities in Nepal (Government of Nepal, Ministry of Home Affairs, 2013).

After the earthquake, 2 hours later, the Central Natural Disaster Relief Committee, Council of Ministers, Secretaries under the Chair of the Chief Secretary, Disaster Relief Committees and District Disaster Relief Committees held a meeting to mitigate the seismic catastrophe (United Nations Office for the Coordination of Humanitarian Affairs, 2015). A central command post under the Secretary of the Ministry of Home Affairs was established, including Ministries: (i) Finance, (ii) Defense, (iii) Foreign Affairs, (iv) Health and Population, (v) Physical Planning and Transport, (vi) Urban Development, (vii) Culture Tourism and Civil Aviation, and, (viii) Information and Communication thereby, search and rescue forces and operations were started. Consequently, the Central Natural Disaster Relief Committee (Raut, 2016) declared 14 districts as districts of crisis and high loss; after that, the committee recommended that the Government of Nepal (GoN) seek international support as a consequence of the preliminary assessment (Thapa N. B., 2016). As a result, the request for international assistance generated the response from 34 countries including 18 Militaries and 16 Non-Militaries (Nepalese Army, 2015). Hence, incorporating 2,242 personnel, 76 Urban Search and Rescue teams, 135 K-9 dogs, and 1,858 medical professionals, 141 Foreign Medical Teams were formulated (Cook, Shrestha, & Htet, 2016). According to the official report of the Government of Nepal (2015) US\$ 4.1 billion, international countries pledged foreign aid to recover the earthquake of 2015. Representing this entirety, half was donated as loans and the remaining as grants. The most significant pledge was provided by India[§], which promised US\$ 1 billion and US\$ 600 million from the Asian Development Bank (BBC News, 2015), followed by China's ** US\$ 483 million (Jaiswal, 2022) contributions (Ministry of Finance, Government of Nepal, 2019).

[§] BBC News (2015) - Commitments comprise US\$ 1 billion (£ 640 million) from India, US\$ 500 million from China, and US\$ 600 million from the Asian Development Bank.

** Jaiswal (2022) - China allocated US\$ 483 million (equivalent to S\$ 659.4 million) in grant aid for 25 reconstruction endeavors spanning five key sectors; infrastructure development, enhancement of livelihoods in mountainous

Moreover, maintaining the data regarding the distribution of the earthquake reconstruction cash grants for private houses, the Government of Nepal prepared a Post-Disaster Needs Assessment framework. The severely damaged and protracted reconstruction led the earthquake survivors to compulsory living in temporary shelters. For the relief action, the Government has developed the Nepal Rural Housing Reconstruction Program, collaborating with significant donor agencies to reengage people into safer permanent housing whereby reconstruction cash grants were disbursed to eligible beneficiaries in three tranches over this program to build earthquake-resistant houses (The Asia Foundation, UK Aid, Swiss Agency for Development and Cooperation, Democracy Resource Center, 2016). However, the rugged geographical terrain, weak governance and the turmoil political scenario of the Nepalese Government remain the primary reasons behind the inappropriate dissemination of grants, and that became one of the crucial causes by which the grants were not dispended to the victimised people in some cases. Eventually, it became the fundamental challenge for reconstructing the post-earthquake phase (Sharma, KC, Subedi, & Pokharel, 2018). So forth, improvement of the socio-economic scenario of community upgrading with information accessibility, coordination, disaster management legislation, crisis management strategy, control and monitoring mechanisms and ceasing of unessential political pressure or corruption uplifts the condition of victims participating in house reconstruction program; thereupon the grants can be equitably distributed.

Similarly, during the post-quake emergency, several relief materials prevailed as climatically unsuitable and culturally inappropriate to an extent, and the discrimination manifested, but remarkable cooperation was executed between community members (Karki et al., 2022). Despite the numerous adverse instances, the Government of Nepal has undertaken significant endeavours, including immediate response and relief, cremation cost assistance for victims' families, temporary shelters for the

regions, restoration of archaeological heritage sites, bolstering disaster preparedness, and fortifying healthcare services as part of the post-quake reconstruction efforts.

displaced, and rehabilitation-reconstruction plans and measures backed by the National Reconstruction and Rehabilitation Fund prioritising essential disaster management items. Likewise, the Government responded to the earthquake by providing medical treatment to the injured, disseminating information, collecting earthquake scenario data, hosting the International Donors' Conference, calling for contributions to the Prime Minister's Disaster Relief Fund, passing a resolution in the CA-LP, and initiated the response efforts. Furthermore, the Government deployed youth volunteers, categorised individuals, issued earthquake victim Identity Cards, and organised the "Nepalese Missions Abroad" program to raise funds for post-earthquake recovery and reconstruction via the National Reconstruction and Rehabilitation Fund (Reliefweb, 2015).

Moreover, numerous scholarly inquiries and analyses have scrutinised disaster assistance and funding disbursement patterns. For instance, Guha-Sapir, Hoyois, and Below (2015) conducted a study revealing that affluent nations frequently allocate more excellent monetary resources to disaster relief endeavours in absolute terms. However, it is noteworthy that the relative proportion of their gross national income (GNI) dedicated to such aid initiatives may not consistently surpass that of less affluent nations. However, Pelling and Uitto (2011) argue that Small Island Developing States (SIDS) are currently confronted with a pivotal juncture marked by persistent developmental challenges compounded by escalating pressures stemming from the ramifications of global environmental transformations and economic liberalisation. These multifaceted challenges pose imminent threats to the states' physical resilience and economic stability. Likewise, the earthquake relief fund was considerably provided by both wealthier and poorer countries in the post-recovery phase. Thus, in the phase of a disaster, the countries are inclined to donate disaster relief aid to other countries, as evidenced by the 2015 earthquake in Nepal. Furthermore, a study by Wamba and Queiroz (2020) found that humanitarian concerns and principles significantly shape international disaster response efforts. Likewise, an article published by Alesina and Dollar (2000) discusses global diplomacy and soft power and how foreign aid, including disaster relief, can be used for diplomacy and soft power projection. Similarly,

research by Shaw and Goda (2004) confers that strategic interests and security presenting disaster assistance can serve broader geopolitical objectives, such as promoting stability in strategically important regions. Correspondingly, an analysis by Nunn & Qian (2014) debates economic and trade benefits and suggests that foreign aid, including disaster relief, can increase trade flows between donor and recipient countries. In addition, research carried out by Rahman and Majchrzak (2022) on the issue of global mechanisms, their norms, and expectations emphasises the role of international norms in shaping disaster response behaviour. Like so, the literature mentioned above also supports the statement that in the aftermath of the earthquake, dependency and declaration to seek foreign assistance by the Government of Nepal demonstrates that the periphery countries depend upon core and semi-periphery for economic assistance at the juncture of natural disasters.

Thus, the world depends on a single World-System referring to a World-Economy System constituting the Capitalist World Economy. According to Immanuel Wallerstein (1974) the growth in the Capitalist World Economy of the industrial production sector is an organic development and progress. Subsequently, the disaster management-prevention tools and policy ideas, including medicine, treatment facilities, construction activities and materials, have been provided by India, China, the UK, and the USA, incorporating other international donors. So, it indicates that the core and semi-periphery nations have distributed various applicable mechanisms to manage the devastating situation of the earthquake in Nepal. Furthermore, economic dependence on developed countries leads to the underdevelopment of certain nations. Following the Mini-Systems now exists the World-System, hitherto colonialism controlled the world, but nowadays, core countries control the semi-periphery and periphery through international trade (Chase-Dunn, 1996). The transition from Mini-Systems to the contemporary world system represents a shift in global power dynamics, where core countries now exert influence over peripheral and semi-peripheral regions primarily through international trade mechanisms (Wallerstein, 2011). The 2015 earthquake in Nepal is a pertinent case study illustrating these dynamics. Core nations and multinational corporations played a significant role in the aftermath, leveraging their economic interests in relief and reconstruction efforts (Harvey,

2003). Nepal's economic vulnerability and dependence on international assistance underscored the asymmetrical power distribution in the global system (Galtung, 1971). Likewise, in the context of the Nepalese earthquake, (i) loans and (ii) grants remain as the central element of international trade in financial terms, and as a result, "the amount of loan pledged by the international community has increased Nepal's debt stock rather than helping those who are affected by the disaster" (Regmi, 2016).

Furthermore, Karl Marx declares that inequality is the consequence of class hierarchy. Besides this, Marx asserts that inequality is a direct outcome of class hierarchy. According to his theory of historical materialism, society evolves through class struggle, where the dominant class controls the means of production and exploits the subordinate class. This economic exploitation perpetuates inequality. Marx argued that the bourgeoisie, or the capitalist class, accrues wealth and power at the expense of the proletariat, the working class. This creates a systemic imbalance, leading to socioeconomic disparities. Marx's analysis emphasises the inherent conflict within capitalist societies, wherein inequality is ingrained due to the structural setup of class relations (Marx, 1890). Conversely, Max Weber confers class as status and stratification, not as inequality. Correspondingly, Immanuel Wallerstein (1974) states World-System as the Capitalist World Economy and the fundamental element in the survival of World-System consists a single market appropriating majority of world surplus resulting the formation of three tiers of exploitation; a core, a semi-periphery, and a periphery. Thus, in the aftermath of the disaster, the developed capitalist countries provided relief materials more quickly due to their vested or beneficial interests, as demonstrated by the circumstances of the 2015 Nepalese earthquake, whereas the wealthy nations provided humanitarian aid. However, the pledge amount was later provided in the form of loans and grants. Moreover, a study by Apodaca (2017) confers that foreign aid primarily serves diplomatic and economic agendas rather than solely humanitarian objectives. Donor nations prioritise strategic and commercial interests in aid allocation, determining recipients, amounts, timing, and delivery channels. Governance levels influence aid sectors. Traditional and nontraditional donors pursue similar motives, but the latter often offer unconditional assistance. Similarly, an

investigation carried out by Buss (2013) in Haiti exhibits that despite receiving billions of aids, the country remains profoundly fragile due to systemic issues, including dysfunctional governance, detrimental foreign policies, and challenges in aid delivery exacerbated by recurrent natural disasters.

Therefore, Immanuel Wallerstein's World-System Theory posits that the world economy functions as a complex system with distinct (i) core, (ii) semi-periphery and (iii) periphery regions, where economic and social dynamics are interconnected and shaped by historical processes of capitalist expansion. The central argument of this theory is that the global economic system is inherently hierarchical, with core nations dominating and exploiting peripheral and semi-peripheral nations for their economic gain. Additionally, the earthquake exacerbated Nepal's position as a peripheral nation within the World System, highlighting its reliance on core nations for assistance and relief efforts. The response to the earthquake further underscored the unequal distribution of resources and influence in the global order, as core nations provided aid and support according to their own geopolitical interests and agendas, including foreign aid in the form of grants and loans.

Moreover, the reliance on foreign aid perpetuates a cycle of dependency, further entrenching Nepal's position as a peripheral nation within the world economy. Thus, this dependency hampers the country's ability to achieve sustainable development and perpetuates its vulnerability to future crises. Besides, the Government of Nepal has sought international assistance as a consequence of a preliminary assessment subsisting facilitated by the Central Natural Disaster Relief Committee to manage the critical predicament fabricated via the devastating earthquake, but it is necessary to develop strategic plans and policies for the Nepalese Government to maintain the balanced diplomacy among its stakeholders which includes both; countries and organisations. Likewise, performing the bureaucratic and political work more effectively to develop the whole country is essential. The earthquake revealed that the structural inequalities perpetuated by the World-System Theory can exacerbate the impact of natural disasters on marginalised communities. Vulnerable groups, such as rural populations and marginalised ethnic minorities, were

disproportionately affected by the earthquake due to pre-existing socio-economic disparities and unequal access to resources. In analysing this scenario critically, it becomes evident that Wallerstein's World-System Theory has provided a valuable framework for understanding the dynamics in the aftermath of the 2015 earthquake in Nepal. By examining the unequal power relations between core and peripheral nations, it was better to comprehend the systemic factors that influence the response to such disasters and the subsequent recovery efforts. Additionally, the analysis underscores the importance of addressing structural inequalities within the global economic system to ensure more equitable and sustainable development outcomes for peripheral nations like Nepal. Consequently, the findings exhibit that Immanuel Wallerstein's World-System Theory fits into the disaster relief action policy scenario of the 2015 Nepalese earthquake.

Conclusion

The disciplinary framework of World-System Theory within disaster studies significantly influences disaster-prone nations. Disasters inherently constitute an adverse facet of human existence, resulting in widespread devastation to human lives and critical infrastructure. So, natural hazards and social coping with them become a challenging part of the periphery countries. Core nations exert their strategies via bilateral and multilateral cooperation with semi-periphery and periphery. These core nations, characterised by high income, are pivotal in addressing disasters and hazards in low-income countries across diverse contexts. Gross Domestic Product (GDP) is a crucial indicator for assessing a country's economic position. Furthermore, foreign assistance, aid, grants, loans, initiatives, concepts, and financial support provided to low-income countries during disasters, mitigating hazards, suggests the potential for indirect trade influence from core to periphery nations.

Therefore, Immanuel Wallerstein's emphasis on the three market tiers is pertinent to surplus production, which is interconnected with disaster management policies in underdeveloped and developing nations. The Nepalese earthquake of 2015 serves as a case in point, highlighting the need for periphery countries to seek international support to build social and physical resilience in the post-disaster

phase. Consequently, various multifaceted strategies received foreign support through grants and loans. So, Nepal was compelled to follow foreign guidelines during infrastructure reconstruction, incorporating disaster relief action, which led to some exploitation. Moreover, earthquake victims also experienced manipulation from multiple sources, and a World-System pattern emerged in post-earthquake formulating the disaster relief policy. Subsequently, the Government of Nepal adeptly executed earthquake policies from that era, showcasing exceptional collaboration among the government, like-minded organisations, and diverse nations, reaching the pinnacle of coordination. Hence, this alliance effectively mitigated the risks and facilitated the formulation of a disaster relief action policy for the 2015 earthquake in Nepal.

References

- Adhikari, A., Hasset, B. E., Lamsal, R., & Sherpa, S. T. (2016). *Nepal's 2015 Earthquake: Communication and the Marginalization of Dalits*. An Interactive Qualifying Project, Worcester Polytechnic Institute, Digital WPI, Worcester Polytechnic Institute, Massachusetts. Retrieved March 7, 2024, from <https://core.ac.uk/download/pdf/212969119.pdf>
- Alesina, A., & Dollar, D. (2000, March). Who Gives Foreign Aid to Whom and Why? *Journal of Economic Growth*, 5(1), 33-63 . Retrieved March 8, 2024, from <https://www.jstor.org/stable/40216022>
- Apodaca, C. (2017, April 26). *Foreign Aid as Foreign Policy Tool*. doi:<https://doi.org/10.1093/acrefore/9780190228637.013.332>
- Bandyopadhyay, S., & Vermann, E. K. (2013). *Donor Motives for Foreign Aid*. St. Louis: Federal Reserve Bank of St. Louis. Retrieved June 25, 2023, from <https://files.stlouisfed.org/files/htdocs/publications/review/13/07/bandyopadhyay.pdf>
- BBC News. (2015, June 25). *Nepal earthquake: India and China pledge millions in aid*. Retrieved March 7, 2024, from BBC News Services: <https://www.bbc.com/news/world-asia-33266422>
- Buss, T. F. (2013). *Foreign aid and the failure of state building in Haiti under the Duvaliers, Aristide, Préval, and Martelly*. United Nations University,

World Institute for Development Economics Research (UNU-WIDER). Helsinki: www.econstor.eu. Retrieved March 8, 2024, from <https://www.econstor.eu/bitstream/10419/93682/1/770116027.pdf>

Cassidy, J. F. (2016). *Encyclopedia of Natural Hazards*. (P. T. Bobrowsky, Ed.) Dordrecht, Netherlands: Springer. doi:https://doi.org/10.1007/978-1-4020-4399-4_104

Central Department of Population Studies, Tribhuvan University. (2015). *Nepal Earthquake 2015: A Socio-Demographic Impact Study*. United Nations Population Fund and the International Organization for Migration. Kathmandu: Government of Nepal, Ministry of Population and Environment. Retrieved July 4, 2023, from <https://nepal.unfpa.org/sites/default/files/pub-pdf/Nepal%20quake%20socio-demographic%20impact%20study.pdf>

Chase-Dunn, C. (1996). *World-Systems: Similarities and Differences*. (S. C. Chew, & R. A. Denemark, Eds.) London, UK: Sage Publications. Retrieved July 5, 2023, from https://archive.org/details/underdevelopment0000unse_y7d4/page/n3/mode/2up

Cook, A. D., Shrestha, M., & Htet, Z. B. (2016). *International Response to 2015 Nepal Earthquake: Lessons and Observations*. Nanyang Technological University, Centre for Non Traditional Security Studies: S. Rajaratnam School of International Studies. Nanyang Avenue: Nanyang Technological University. Retrieved October 18, 2023, from https://www.rsis.edu.sg/wp-content/uploads/2016/10/NTS_Report_4_Nepal_final_04Oct2016.pdf

Frank, A. G. (1967). *Capitalism and Underdevelopment in Latin America* (Vol. 93). United States of America: New York University Press. Retrieved August 8, 2023

Galtung, J. (1971). A Structural Theory of Imperialism. *Journal of Peace Research*, 8(2), 81-117. Retrieved March 8, 2024, from <https://www.jstor.org/stable/422946>

Goda, K., Kiyota, T., Pokhrel, R. M., Chiaro, G., Katagiri, T., Sharma, K., & Wilkinson, S. (2015, June 22). The 2015 Gorkha Nepal Earthquake: Insights from Earthquake Damage Survey. (S. Tesfama riam, Ed.)

Frontiers in Built Environment, 1(8), 1-15. doi:<https://doi.org/10.3389/fbuil.2015.00008>

- Government of Nepal, Ministry of Home Affairs. (2013). *National Disaster Response Framework*. Kathmandu: Ministry of Home Affairs. Retrieved July 5, 2023, from <http://drportal.gov.np/uploads/document/113.pdf>
- Government of Nepal, Ministry of Home Affairs. (2015). *Nepal Disaster Report 2015*. Kathmandu: GoN, Ministry of Home Affairs and Disaster Preparedness Network-Nepal. Retrieved July 5, 2023, from <http://www.drportal.gov.np/uploads/document/329.pdf>
- Government of Nepal, Ministry of Home Affairs. (2019, February 12). *National Policy for Disaster Risk Reduction 2018*. Kathmandu: United Nations Development Programme. Retrieved June 24, 2023, from drportal: <http://drportal.gov.np/uploads/document/1476.pdf>
- Government of Nepal, National Planning Commission. (2015). Nepal Earthquake 2015: Post Disaster Needs Assessment. Kathmandu: GoN NPC, A, 1-107. Retrieved July 3, 2023, from <https://www.worldbank.org/content/dam/Worldbank/document/SAR/nepal/PDNA%20Volume%20A%20Final.pdf>
- Guha-Sapir, D., Hoyois, P., & Below, R. (2015). *Annual Disaster Statistical Review 2014: The numbers and trends*. Brussels: Centre for Research on the Epidemiology of Disasters (CRED), Institute of Health and Society (IRSS), Université catholique de Louvain. Retrieved March 8, 2024, from https://www.cred.be/sites/default/files/ADSR_2014.pdf
- Hall, T. D., Kardulias, P. N., & Chase-Dunn, C. (2011, September). World-Systems Analysis and Archaeology: Continuing the Dialogue. *Journal of Archaeological Research*, 19, 233–279. doi:<https://doi.org/10.1007/s10814-010-9047-5>
- Harvey, D. (2003). *The New Imperialism*. Oxford University Press. doi:<https://doi.org/10.1093/oso/9780199264315.001.0001>
- He, C., Huang, Q., Bai, X., Robinson, D. T., Shi, P., Dou, Y., . . . Daniell, J. (2021, December 21). A Global Analysis of the Relationship Between Urbanization and Fatalities in Earthquake-Prone Areas. *International*

- Journal of Disaster Risk Science*, 12(6), 805-820. doi:<https://doi.org/10.1007/s13753-021-00385-z>
- Humanitarian Country Team. (2016). *Contingency Plan*. Commissioner of the Department of Disaster Management Affairs and Resident Coordinator of the United Nations in Malawi. Retrieved July 5, 2023, from https://un.org.np/sites/default/files/doc_publication/2018-11/20160622_nepal_eq.pdf
- International Federation of Red Cross and Red Crescent Societies. (2023). *What is a disaster?* Retrieved June 23, 2023, from IFRC: <https://www.ifrc.org/our-work/disasters-climate-and-crises/what-disaster>
- Jaiswal, P. (2022). Changing Contours of Nepal-China Relations. In P. Jaiswal, & A. Ranjan (Eds.), *South Asia Discussion Papers, Nepal's Foreign Policy in a Changing World* (pp. 23-30). Singapore: Institute of South Asian Studies, National University of Singapore and Nepal Institute for International Cooperation and Engagement. Retrieved March 7, 2024, from https://www.isas.nus.edu.sg/wp-content/uploads/2022/12/SADP_Niice_V.pdf
- Karkee, R., & Comfort, J. (2016, August 24). NGOs, Foreign Aid, and Development in Nepal. (E. Broughton, Ed.) *Frontiers in Public Health*, 4(177), 1-5. doi:<https://doi.org/10.3389/fpubh.2016.00177>
- Karki, J., Matthewman, S., & Grayman, J. H. (2022, October 25). Rahat-Sahayog (Relief Support): Examining Disaster Emergency Response in the Aftermath of the Nepal Earthquake 2015. *Disaster Prevention and Management*, 31(5), 494-507. doi:<https://doi.org/10.1108/DPM-06-2022-0126>
- Keck, M., & Sakdapolrak, P. (2013, March 20). What Is Social Resilience? Lessons Learned and Ways Forward. *Erdkunde*, 67(1), 5-19. doi:DOI: 10.3112/erdkunde.2013.01.02
- Lal, P. N., Singh, R., & Holland, P. (2009). *Relationship Between Natural Disasters and Poverty: A Fiji Case Study*. United Nations Office for Disaster Risk Reduction, International Strategy for Disaster Reduction. Global Facility for Disaster Reduction and Recovery . Retrieved June 24, 2023, from https://www.preventionweb.net/files/11851_11851R25PovertyAFijiCaseStudyLowres.pdf

- Letukas, L., & Barnshaw, J. (2008, December 1). A World-System Approach to Post-Catastrophe International Relief. *Social Forces*, 87(2), 1063--1087. doi:<https://doi.org/10.1353/sof.0.0136>
- Lindell, M. K. (2013, May 30). Disaster Studies. *Current Sociology*, 61(5-6), 797-825. doi:<https://doi.org/10.1177/0011392113484456>
- Little, W., Vyain, S., Scaramuzzo, G., Cody-Rydzewski, S., Griffiths, H., Strayer, E., . . . McGivern, R. (2013). *Introduction to Sociology - 1st Canadian Edition* (1st ed.). OpenStax College Rice University. Retrieved June 25, 2023, from <https://opentextbc.ca/introductiontosociology/chapter/chapter10-global-inequality/>
- Manuelli, R., & Vizcaino, J. I. (2017). Natural Disasters and Growth: The Role of Foreign Aid and Disaster Insurance. *2017 Meeting Papers 1118* (pp. 1-31). Society for Economic Dynamics. Retrieved June 24, 2023, from https://economicdynamics.org/meetpapers/2017/paper_1118.pdf
- Martínez-Vela, C. A. (2001). World Systems Theory. In D. A. Mindell (Ed.), *Research Seminar in Engineering Systems ESD.83* (pp. 1-5). Cambridge: Massachusetts Institute of Technology. Retrieved June 24, 2023, from <https://web.mit.edu/esd/83/www/notebook/WorldSystem.pdf>
- Marx, K. (1890). *Das Kapital* (4th ed., Vol. 1). (H. G. Ehrbar, Ed.) Retrieved March 8, 2024, from <https://content.csbs.utah.edu/~ehrbars/cap1.pdf>
- Ministry of Finance, Government of Nepal. (2019). *Development Cooperation Report*. Kathmandu: International Economic Cooperation Coordination Division, Ministry of Finance. Retrieved October 25, 2023, from https://www.mof.gov.np/uploads/document/file/dcr_2019_20200304043803.pdf
- Nepalese Army. (2015). *Nepal Earthquake 2015: Nepalese Army Experience and Lessons Learnt*. Kathmandu: Ministry of Home Affairs, United Nations Development Programme, Nepal Administrative Staff College. Retrieved October 18, 2023, from <https://dms.nasc.org.np/sites/default/files/documents/Col.NareshSubba.pdf>

- Nunn, N., & Qian, N. (2014, June). US Food Aid and Civil Conflict. *American Economic Review*, 104(6), 1630-66. doi:<https://doi.org/10.1257/aer.104.6.1630>
- Pelling, M., & Uitto, J. I. (2011, June 15). Small island developing states: natural disaster vulnerability and global change. *Environmental Hazards*, 3(2), 49-62. doi:<https://doi.org/10.3763/ehaz.2001.0306>
- Perry, R. W. (2007). *What Is a Disaster?* (H. Rodríguez, E. L. Quarantelli, & R. R. Dynes, Eds.) New York, United States of America: Springer. doi:https://doi.org/10.1007/978-0-387-32353-4_1
- Rahman, M. T., & Majchrzak, T. A. (2022, December 26). Making decisions for effective humanitarian actions: a conceptual framework for relief distribution. *Journal of International Humanitarian Action*, 7, Article number 24. doi:<https://doi.org/10.1186/s41018-022-00132-z>
- Raut, K. B. (2016). Nepal Earthquake 2015: Lesson Learnt and Future Guidance. *Health and DRR Conference*. Bangkok: United Nations Office for Disaster Risk Reduction. Retrieved October 25, 2023, from https://www.unisdr.org/files/47606_nepalearthquakepresentationpanel1.pdf
- Regmi, K. D. (2016, September 28). The political economy of 2015 Nepal earthquake: some critical reflections. *Asian Geographer*, 33(2), 77-96. doi:<https://doi.org/10.1080/10225706.2016.1235053>
- Reliefweb. (2015, June 1). *Post-Earthquake Relief, Rehabilitation and Reconstruction Measures undertaken by the Government of Nepal*. Retrieved July 5, 2023, from reliefweb.int: <https://reliefweb.int/report/nepal/post-earthquake-relief-rehabilitation-and-reconstruction-measures-undertaken-government>
- Sharma, K., KC, A., Subedi, M., & Pokharel, B. (2018, June 4). Post Disaster Reconstruction after 2015 Gorkha Earthquake: Challenges and Influencing Factors. *Journal of the Institute of Engineering*, 14(1), 52-63. doi:<https://doi.org/10.3126/jie.v14i1.20068>
- Shaw, R., & Goda, K. (2004, February 27). From Disaster to Sustainable Civil Society: The Kobe Experience. *Disasters*, 28(1), 16-40. doi:<https://doi.org/10.1111/j.0361-3666.2004.00241.x>

- Shrestha, B., & Pathranarakul, P. (2018, August 1). Nepal Government's Emergency Response to the 2015 Earthquake: A Case Study. *Social Sciences*, 7(8), 1-27. doi:<https://doi.org/10.3390/socsci7080127>
- Siriwardena, N. U., Haigh, R. P., & Ingirige, M. J. (2007). Disaster! In Search of a Definition: Specific to Construction Industry. *Proceedings of the 7th International Postgraduate Research Conference in the Built and Human Environment* (pp. 249-259). Salford: Research Institute for the Built and Human Environment, University of Salford. Retrieved June 24, 2023, from <https://www.irbnet.de/date n/iconda/CIB16562.pdf>
- Thapa, I. (2020). *Foreign Aid: Positive and Negative Impact in Developing Countries*. Public Administration Campus, Tribhuvan University. Kathmandu: Public Administration Campus. doi:<http://dx.doi.org/10.13140/RG.2.2.19155.81448>
- Thapa, N. B. (2016). *Nepal Earthquake 2015: Lesson Learnt and Future Guidance*. Phuket: Government of Nepal, Ministry of Home Affairs. Retrieved July 5, 2023, from https://www.adrc.asia/acdr/2016/documents/01_Nepal_Nepal%20Earthquake%20ACDR2016.pdf
- The Asia Foundation, UK Aid, Swiss Agency for Development and Cooperation, Democracy Resource Center. (2016). *Nepal Government Distribution of Earthquake Reconstruction Cash Grants for Private Houses*. San Francisco: The Asia Foundation. Retrieved July 5, 2023, from https://asiafoundation.org/wp-content/uploads/2016/12/Nepal-Govt-Distribution-of-Earthquake-Reconstruction-Cash-Grants-for-Private-Houses_June2017.pdf
- United Nations Office for Disaster Risk Reduction. (2023). *Disaster*. Retrieved June 24, 2023, from undrr: <https://www.undrr.org/terminology/disaster#>
- United Nations Office for the Coordination of Humanitarian Affairs. (2015). *Humanitarian Bulletin: Nepal Earthquake*. Kathmandu: United Nations. Retrieved October 25, 2023, from https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/ochanepalearthquakehumanitarianbulletinno1june2015_final.pdf
- Wallerstein, I. (1974). *The Modern World System: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century*.

New York, United States of America: Academic Press. Retrieved June 24, 2023

- Wallerstein, I. (1974). The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis. *Comparative Studies in Society and History*, 16(4), 387-415. doi:<https://doi.org/10.1017/S0010417500007520>
- Wallerstein, I. (2004). *World-Systems Analysis: In World System History* (Vol. 1). (G. Modelski, & R. A. Denemark, Eds.) Oxford, UK: Eolss Publishers. Retrieved July 6, 2023, from <https://www.eolss.net/ebbooklib/bookinfo/world-system-history.aspx>
- Wallerstein, I. (2011). *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (1st ed.). University of California Press. Retrieved March 3, 2024, from <https://www.jstor.org/stable/10.1525/j.ctt1pnrj9>
- Wamba, S. F., & Queiroz, M. M. (2020, June). Blockchain in the operations and supply chain management: Benefits, challenges and future research opportunities. *International Journal of Information Management*, 52, 102064. doi:<https://doi.org/10.1016/j.ijinfomgt.2019.102064>
- Wu, X., Guo, J., & Gonzalez, E. D. (2019, December 20). Determining the amount of international aid that countries should donate after a disaster to alleviate sustainable implications: A new framework for analysis. *Journal of Cleaner Production*, 241, 118285. doi:<https://doi.org/10.1016/j.jclepro.2019.118285>
- Younas, J. (2008, September). Motivation for Bilateral Aid Allocation: Altruism or Trade Benefits. *European Journal of Political Economy*, 24(3), 661-674. doi:<https://doi.org/10.1016/j.ejpoleco.2008.05.003>